What will we cover?

- Timeframes for implementation
- New technical standards
- Potential costs of Zero Carbon
- Questions still to be answered
What is the London Plan?

“The London Plan is the overall strategic plan for London. It sets out a fully integrated economic, environmental, transport and social framework for the development of the capital to 2031.”

Boroughs Local Plans need to be in “general conformity” with the London Plan.
Policy 5.2: Minimising Carbon Dioxide Emissions

- 35% carbon reduction over the Part L 2013 TER
- Zero Carbon to new build residential
Policy 5.5 Decentralised Energy Networks
- Prioritise connection to existing or planned District Heating Networks

Policy 5.6 Decentralised Energy in Development Proposals
Select energy systems in accordance with the following hierarchy:
- Connection to existing heating or cooling networks
- Site wide CHP network
- Communal heating and cooling.
Current Sustainability Requirements

Policy 5.7 Renewable Energy
- Up to 20% reduction in carbon emissions from renewable energy

Policy 5.9 Overheating and Cooling
- Reduce potential overheating risk and reliance on air conditioning systems

Policy 5.15 Water Use and Supplies
- New build residential to achieve 105 litres per person per day internal water use
The Energy Hierarchy

Be Lean
Use less energy

Be Clean
Supply energy efficiently

Be Green
Low and zero carbon technologies

Carbon Offset

Compliance with Target Emission Rate for current Building Regulations.

35% reduction over Target Emission Rate.
Domestic minimum on-site standard.
Non-Domestic standard.

100% reduction over Target Emission Rate.
Domestic standard.
New London Plan - Timeframes

1st December 2017 – 2nd March 2018
Draft Consultation

January - May 2019
Examination in Public

Winter 2019/2020
Adoption of New London Plan

When does the new plan become a material planning consideration?
New London Plan – The Chapters

- Chapter 1 Planning London’s Future (Good Growth Policies)
- Chapter 2 Spatial Development Patterns
- Chapter 3 Design
- Chapter 4 Housing
- Chapter 5 Social Infrastructure
- Chapter 6 Economy
- Chapter 7 Heritage and Culture
- Chapter 8 Green Infrastructure and Natural Environment
- **Chapter 9 Sustainable Infrastructure**
- Chapter 10 Transport
- Chapter 11 Funding the London Plan
- Chapter 12 Monitoring
Policy SI2: Minimising greenhouse gas emissions

35% reduction in on site carbon emissions to be achieved through the Energy Hierarchy:

1. **Be lean:** Minimum Carbon target introduced

2. **Be clean:** Changes to the heating hierarchy

3. **Be green:** Energy storage encouraged

4. **Be seen:** Monitor, verify and report on energy performance.

5. **Zero Carbon** to be achieved through:
   a) Carbon offset payment
   b) Off site carbon offset works provided delivery is certain

6. **Whole Life Cycle Carbon Assessment for referable schemes**
The Energy Hierarchy – Be Lean

<table>
<thead>
<tr>
<th>London Plan 2016</th>
<th>New London Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>No carbon reduction target for the Be Lean stage of the energy hierarchy</td>
<td>Minimum performance targets</td>
</tr>
<tr>
<td></td>
<td>Residential development:</td>
</tr>
<tr>
<td></td>
<td><strong>10%</strong> carbon reduction through efficient fabric and services</td>
</tr>
<tr>
<td></td>
<td>Non- Residential development:</td>
</tr>
<tr>
<td></td>
<td><strong>15%</strong> carbon reduction through efficient fabric and services</td>
</tr>
</tbody>
</table>
The Energy Hierarchy – Be Clean

Ensure efficient supply of energy, reducing dependence on mains gas supply, whilst future proofing London development to easily connect to low cost/low carbon heat sources in the future.
The Energy Hierarchy – Be Clean

Be Clean: a new heating hierarchy

Major development proposals in heat network priority areas should have a low temperature communal heat network, with the heating system selected from the hierarchy:

1. Connect to local existing or planned heat networks
2. Use zero emission or local secondary heat sources (in conjunction with heat pump, if required)
3. Use low emission combined heat and power (CHP), only where CHP is considered vital for the provision of an area wide heat network
4. Use ultra-low NOx gas boilers
Major development proposals must be at least air quality neutral

Impact on the provision of CHP?
The Energy Hierarchy – Be Green

Be Green: Provide Renewable Energy

Solar Thermal

Photovoltaic Panels

Wind Turbines

Heat Pumps:
Air, ground and water source

Biomass & Biofuel
Major Developments will be required to complete five years of monitoring of energy demand and carbon emissions submitted through an online portal to the GLA.
50-100% increase in the cost of carbon on a new build development, based on current SAP 2012 methodology.

<table>
<thead>
<tr>
<th></th>
<th>Current London Plan</th>
<th>New London Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost of Carbon...</strong></td>
<td>£60 per tonne over 30 years</td>
<td>£95 per tonne over 30 years</td>
</tr>
<tr>
<td><strong>Applies to...</strong></td>
<td>New build residential only</td>
<td>New build residential and non-residential</td>
</tr>
</tbody>
</table>

50-100% increase in the cost of carbon on a new build development, based on current SAP 2012 methodology.
How will this money be spent?

**Westminster:** Feasibility studies for District Heating networks

**Enfield:** Fuel Poverty Programme – boiler upgrades, LZC installation to vulnerable households

**Merton:** Haselmere primary school solar PV array
What about SAP 10?

- SAP is the methodology used to estimate a dwelling’s annual energy consumption and subsequent carbon emissions.
- Uses emissions factors to translate energy consumption into carbon emissions.

<table>
<thead>
<tr>
<th></th>
<th>SAP 2012</th>
<th>SAP 10</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor for Mains Gas</td>
<td>0.216</td>
<td>0.210</td>
<td>3% less carbon intensive</td>
</tr>
<tr>
<td>Emission Factor for Electricity</td>
<td>0.519</td>
<td>0.233</td>
<td>55% less carbon intensive</td>
</tr>
</tbody>
</table>
What about SAP 10?

“The Mayor recognises that Building Regulations use outdated carbon emission factors and that this will continue to cause uncertainty until they are updated by Government. Further guidance on the use of appropriate emissions factors will be set out in the Mayor’s Energy Planning Guidance to help provide certainty to developers on how these policies are implemented.”
### The Energy Hierarchy – Zero Carbon

#### What about SAP 10?

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</thead>
<tbody>
<tr>
<td><strong>2 bed apartment achieving 35% on site carbon reduction</strong></td>
<td>£1,380 per dwelling</td>
<td>£2,190 per dwelling</td>
<td>£3,100 per dwelling</td>
</tr>
</tbody>
</table>

*Based on SAP2012 methodology with SAP10 emission factors.

Apartment connected to CHP led district heating
Life Cycle Carbon Assessment

Applications referable to the GLA will need to submit a LCA demonstrating how life cycle carbon emissions have been assessed and where possible, reduced.
Policy SI4 – Managing Heat Risk

- Dynamic Simulation Modelling required to support planning submission
- CIBSE TM59 for residential and TM52 for non-residential
- Passive measures to be prioritised through a cooling hierarchy, before considering active measures
- Expect more rigorous planning conditions on overheating strategy
Policy SI5 – Water Infrastructure

**Residential Development:**

105 litres per person per day, internal water consumption – no change

**Commercial Development:**

Achieve at least the BREEAM Excellent standard (approx. 12.5% reduction over BREEAM baseline)
Consultation Summary

Timeframes:

- Examination in public January - May 2019
- Plan finalised late 2019
- Introduced early 2020
Consultation Summary

**New Technical Standards:**

- Minimum performance standard for energy reduction (Be Lean)
- A new heating hierarchy
- More stringent controls on air quality
- Energy storage encouraged
- Energy monitoring introduced
- Overheating requirements more rigorous
- Water consumption targets for non-domestic development
The Zero Carbon Standard

- Cost of Carbon increased by over 50%
- Applies to new build non-domestic as well as domestic
Our Services

**Planning**
- London Plan Energy Strategy
- BREEAM
- Noise and Vibration
- Overheating Analysis
- Daylight and Sunlight Impact
- Acoustic Design Advice

**Design**
- SAP Calculations
- SBEM Calculations
- Same Day EPCs
- Water Efficiency Calculations
- Thermal Bridging Analysis

**Completion**
- Air Leakage Testing
- Acoustic Testing
- Thermographic Survey

If you have a question or would like some guidance regarding a specific project, then we’d like to hear from you.

Call our team today on **08458 386 387**, and one of our specialists will be happy to help.

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